CLAIMS

1. A linear motor provided with a platen having a platen surface formed with a plurality of platen dots arranged in a matrix and an X-axis movable element having an pole tooth pattern having a set of at least 2n (where n is an integer of 2 or more) pole teeth for generating an advancing magnetic flux with the closest dots among the platen dots, said linear motor characterized in that the platen has the parallel sheet edge surfaces of the stacked member comprised of a plurality of magnetic sheets stacked together as the platen surface, the 2n number of magnetic teeth of the pole tooth pattern are arranged laterally in a relation having an equal spatial phase relation held with the closest dots arranged in the sheet edge direction of the magnetic sheets, the 2n number of pole teeth of the pole tooth pattern are arranged staggered within one dot pitch (P) in the normal direction of the joined surfaces of the magnetic sheets, and the spatial phase held with respect to the closest dot arranged in the normal direction is shifted by increments of the spatial phase difference (P/2n).

2. A linear motor as set forth in claim 1, characterized in that the X-axis movable member has a group of patterns comprised of the pole tooth pattern arranged repeatedly in the normal direction.

3. A linear motor as set forth in claim 1,characterized in that said X-axis movable member has said pole tooth pattern as a first pole tooth pattern, and a second pole tooth pattern formed apart from the first pole tooth pattern in the normal direction, the staggered arrangement of the first pole tooth pattern and the staggered arrangement of the second pole tooth pattern in spatial phase relationship held with respect to the closest dots

arranged in the normal direction of the joined surfaces of the magnetic sheets being line symmetric with respect to the X-direction line passing through the pattern.

4. A linear motor as set forth in any one of claims 1 to 3, characterized by having a composite movable member comprised of said X-axis movable member and a Y-axis movable member moving in the sheet edge direction of the magnetic sheets connected in an in-plane perpendicular relationship.

5. A linear motor as set forth in claim 4, characterized in that two of said X-axis movable members and two of said Y-axis movable members are arranged diagonally with respect to a center point in the plane of the composite movable member and in that the pole tooth patterns of one of the X-axis movable members and the pole tooth patterns of the other of the X-axis movable members are line symmetric with respect to an X-direction line passing through the center point in the plane.

6. A linear motor as set forth in any one of claims 1 to 5, characterized in that the thickness of the magnetic sheets is a thickness of not more than half the pitch of the platen dots.

7. A linear motor as set forth in claim 6, characterized in that the thickness of said magnetic sheets is a thickness of not more than 1/n the pitch of the platen dots.